

RESPONSE TO OFFICE ACTION
DATED FEBRUARY 7, 2005

Appln. No. 10/635,087

- 16 -

March 8, 2005

REMARKS

This is in response to the Office Action dated February 7, 2005. Reconsideration is respectfully requested.

Summary of Interview Pursuant to 37 CFR 1.133

Applicants thank the Examiner for the interview granted their attorney, John Chionchio, on February 18, 2005. Claims 1 and 10 and cited references U.S. Patent Nos. 4,385,747 to Renaud, Jr. et al and 3,409,269 to Fawkes were discussed. Applicants' attorney presented various arguments against anticipation rejections of the claims, contending that the cited references, particularly Fawkes, did not teach all claim elements because the references failed to disclose channels positioned in the surface of the seals disclosed therein. Also discussed were possible amendments that recite the orientation of the various surfaces and channels comprising the seal which is the subject of the application. No agreement was reached.

Summary of the Rejections

Claims 1-10, 19, 20, 22-26, 36, 37, 39-47, 56, 57, 59-61, 71, 72 and 74-76 are pending and all are rejected. Claims 1, 2, 4, 6-10, 19, 20, 22, 23, 26, 26, 36, 37, 39-40, 42, 43, 45, 47, 56, 57, 59, 60, 71, 72, 74 and 75 are rejected as anticipated by U.S. Patent No. 4,385,747 to Renaud, Jr. et al.

Claims 1, 3-10, 22, 24-26,, 39-42, 44-47, 59, 61 and 74-76 are rejected as anticipated by U.S. Patent No. 3,409,269 to Fawkes. Claims 4 and 40 are objected to for lack of antecedent basis.

RESPONSE TO OFFICE ACTION
DATED FEBRUARY 7, 2005

Appln. No. 10/635,087

- 17 -

March 8, 2005

Support for Claim Amendments

Claims 1, 22, 39, 42, 59 and 74 are amended to recite the direction in which the various surfaces comprising the seal face, the surface and direction in which the channels extend, and the nature of the channels as "open" channels. In support of the amendments, page 7, line 20, describes surfaces 18 and 20, shown in Figure 1, as "axially facing" surfaces. Figure 1 shows sealing surface 14 and mounting surface 16 as facing radially relatively to the center of the seal. Figure 1 furthermore shows channels 20 being "open" channels in that they are not enclosed, tubular ducts, and shows them extending substantially in the radial direction along the axially facing surfaces of the seal.

Claims 10, 22, 47 and 59 have been amended to more positively recite the structure defining the void space. Support is provided in Figure 1 which shows the perimeter mounting surface 16 configured to define various void spaces.

Summary of the Invention

The invention concerns a seal and a valve including the seal. The seal comprises a flexible resilient loop having a perimeter sealing surface and a perimeter mounting surface positioned opposite to one another. The perimeter mounting surface faces in a radial direction, either outwardly as shown in Figure 1, or inwardly as shown in Figure 15, and may be configured as shown, for example, in Figure 8 to define various void spaces 28. The perimeter sealing surfaces faces in a radial direction opposite to the mounting surface and is engageable with either the valve closing member (see Figure 5) or the valve housing (see Figure 15) to effect a sealing closure of the valve. A pair of axially facing surfaces 18 and 20 extend between the sealing and mounting surfaces. Open channels 20 extend in the radial direction along these

RESPONSE TO OFFICE ACTION
DATED FEBRUARY 7, 2005

Appln. No. 10/635,087

- 18 -

March 8, 2005

surfaces as illustrated in Figure 20. The channels provide pressure relief to the perimeter of the seal during closing of the valve.

The Argument

Applicants maintain that neither Renaud, Jr. et al nor Fawkes anticipates any of applicants' claims as amended. This is demonstrated on a claim-by-claim basis in the arguments presented below.

Claim 1

To anticipate a claim, the reference must teach every element of the claim. Renaud, Jr. et al fails to meet this requirement because it does not teach a seal having radially extending open channels in an axially facing surface as recited in Claim 1.

As shown in Figures 1 and 3 of Renaud, Jr. et al, there are two surfaces facing in an axial direction as defined consistently with the application. These are the vertical surfaces "C" and "A". Neither of these surfaces has an open channel extending along it. Channels 29 and 29a are closed, not open channels as recited in the claim. Furthermore, Channel 29 does not extend in a radial direction, but extends in an axial direction, and neither 29 nor 29a extend along either axially facing surface. While passageway 28 may be an open channel, it extends in an axial direction along a radially facing surface "D", not in a radial direction along an axially facing surface as recited in Claim 1.

Similarly, as shown in Figure 7 of Fawkes, channel 154 within seal 130 is not an open channel and it does not extend along either of the vertical surfaces of the seal that face in the axial direction. Channel 154 is a closed, tubular duct

RESPONSE TO OFFICE ACTION
DATED FEBRUARY 7, 2005

Appln. No. 10/635,087

- 19 -

March 8, 2005

contained wholly within the seal 130 and cannot reasonably be considered an open channel extending along an axially facing surface of the seal as recited in Claim 1.

Applicants contend that Claim 1, as amended, is not anticipated by either reference because neither one teaches all claim elements.

Claims 2-10, 19 and 20 depend on Claim 1 and should be allowable for the same reasons that Claim 1 is allowable.

Claims 22, 42 and 59 are independent claims, each one of which recites a seal having open channels extending in a radial direction along a surface facing in an axial direction. By the same reasoning as presented for Claim 1, the cited references Renaud, Jr. et al and Fawkes do not anticipate these independent claims because neither reference teaches such an open channel extending along an axially facing surface as recited in the claims. Furthermore, Claims 23-26, 36, 37, 40 and 41 depend upon 22; Claims 43-47, 56, and 57 depend upon Claim 42; and Claims 60, 61, 71, 72, 75 and 76 depend upon Claim 59, and these dependent claims should be allowable for the same reasons that their base claims are allowable.

Summary

Applicants have demonstrated in the arguments presented above that the cited references, Renaud, Jr. et al and Fawkes, fail to meet the requirement necessary to support rejection of applicants' claims on the basis of anticipation because the references do not teach every element of applicants' claims.

RESPONSE TO OFFICE ACTION
DATED FEBRUARY 7, 2005

Appln. No. 10/635,087

- 20 -

March 8, 2005

Applicants contend that the claims are allowable over the cited references, and request that the withdrawn claims be entered and the application passed to issue.

Respectfully submitted,

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Enclosure